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ABSTRACT

The speech of two two-year-old Mandarin-speaking children was taped during free play in their homes. The following characteristics of their speech were discovered: (1) excellent, near full control of tones; (2) somewhat stricter word order than is found in adult speech (Mandarin is undergoing a word order shift from SVO to SOV); and (3) few coinages or use of the productive reduplicated forms in Mandarin, but greater than adult usage of morphological markings in the forms that were controlled. It seems that, despite the relative lack of morphological elaboration available in Chinese, the children found morphological markers easier to control than periphrastic forms involving adverbs or word order shifts and contrasts. In addition, all four children's preferences in aspectual relations marked seemed consistent enough to project a fuller generalized schedule for the emergence of aspectual relations over time. Further analysis indicates that aspectual distinctions are far more central to the children than temporal ones. A cognitive universal is proposed for early linguistic marking of changes of state (distinguishable from endings or results) to be commented on by the child in a variety of overextensions constrained relatively little by linguistic form. (Author/JB)

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ACQUISITION OF TEMPORAL AND ASPECTUAL DISTINCTIONS IN MANDARIN

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The Chinese language has no tense system, unlike most European languages which routinely index event time to speech time, with tense marked on the verb. Previous studies of early language acquisition of time and aspect distinctions have been conducted in and organized around tense languages and how the acquisition of tense reveals young children's particularized temporal notions. (See Bronckart and Sinclair, 1973 for French data; Bloom, Lifter, and Tanouye, 1977 for English, and Antinucci and Miller, 1976 for Italian.) Chinese children's acquisition of temporal and aspectual markers parallel those of tense-language learners in many important ways, particularly with respect to early preference for marking changes of state, and then sustained physical actions. In the Mandarin learner's output the aspectual relations are marked directly without any overlap with or interference from a tense system. The aspect-oriented Chinese grammatical system consists largely of concords between verb suffixes and pre-verbal adverbs. If a speaker does want to contrast speech time and event time, he can do so using a time adverb, but this is quite rare, occurring probably less than 5% of the time in adult conversations.

Given this state of affairs, how do Chinese children go about learning to mark aspect, and what time indicators do they use? The answer to the second question is simple: they make almost no time distinctions up through MLU 4.31. In seven hours of tape of a 24-month-old child with an MLU of 2.65, he produced only one time distinction, yijing "already", in 1,771 interpretable utterances. This one usage was an imitation. In nine hours and 3,333 interpretable utterances from the second child, a 31-33 month old girl with a maximum MLU of 4.31, there were only a total of 20 time expressions, about half of which were used appropriately. These were about evenly divided between past and non-past expressions.

What then of aspect? The earliest and most fundamental aspect marking the Chinese children use is change of state with the "perfect marker" verb suffix .le. They use this to mark not only already completed changes of state, as is appropriate; but also desire future changes, as in remarks on their intentions, and in imperatives. They also attach it inappropriately to nouns and adjectives to express changed states. They are marking the change with little regard to whether or not it has yet occurred in real time, and whether or not it has reached its ultimate end state. However, completion and ending markings were the next aspect markers to appear. Resultative statements indicating production of some kind of product scarcely appeared in the sample. These results correlate well with those found by Bloom et al. for high, early and accurate use of the English irregular past tenses to express active changes; and with comparable

Stanford University Dept. of Linguistics

Papers and Reports on Child Language Development, Number 15

selective use of an Italian past form reported by Antinucci and Miller.

For the Chinese children, there was a parallel aspectual distinction they made almost without error reaching back well into the one word stage. This was the distinction between the negative adverb bu meaning "doesn't", can't" or "won't" and implying impossibility; and the mei perfect negative meaning "hasn't" implying a durative relation with continued possiblity. For example, ta bu chouyen means "He doesn't
he not smoke cigarette
smoke cigarettes" (ever, as a matter of habit or principle) while ta mei chouyen means "He hasn't
he hasn't smoke cigarette
smoked cigarettes" (yet, but he might well do so later.) The distinction between these two negatives parallels the children's most basic distinction between changes of state and duratives. The Chinese children's near perfect distinction between and control of these two negatives was striking and unexpected.

This differentiated use of negatives with mei "hasn't" was the first marker for durative relations to emerge. Durative relations in general developed more slowly and with a higher error rate than did the change of state distinctions. For both durative and and non-durative distinctions, verb suffix and infix forms were better controlled than were non-continuous, periphrastic adverbial forms which required agreement. This is in accordance with Slobin's 1973 predictions.

Still unrealized in the most advanced samples studied were: productive use of time of event and duration of event markings, markings for beginnings (this in contrast to the elaborate distinctions among types of endings), absolute past experience, habituals, iteratives, marked seriated events, and causality. It seems as though for Chinese children, as for other children, the change of action state distinction is universally marked very early regardless of the grammatical form used, while gradations among other types of aspectual distinctions are more subject to interference from the formal complexity of the markers used in the particular language being learned.

The subjects for this investigation were two, two-year-old Chinese children growing up in Mandarin speaking homes in Taipei, Taiwan. Both were bright, verbal children from from rather prosperous, Westernized homes. Three of the four parents were high school teachers; and both children had their own tape recorders, tricycles, Disney books in Chinese, toy pianos, leggo blocks and other toys spread out in front of the color tv's. The younger child, Lao Hu, was a 24 month old boy with six and eight year old sisters.

I taped him in seven different hour-long sessions over two weeks time. His MLU ranged from 1.99 to 2.69, generally around Brown's Stage II.

The second child, Jong Rong, was a girl, an only child, whom I taped for 9 hours between her 31st and 33rd months. Her MLU showed a general but by no means linear increase, ranging between 2.91 and 4.31, or between Brown's third and fifth stages. I feel that MLU measurements for Chinese are about as valid as those for English, perhaps slightly underestimating the Chinese child, because of the Chinese language's extreme spareness in morphological elaboration. (Not only does Chinese have no tense system, it does not have number or gender distinctions, nor any surface case markings.)

I taped both children during free play in their homes, generally with a parent or sibling participating. I spoke to the child and his or her family in Mandarin, but taped very extensive contextual notes in English simultaneous with the action. The transcripts included every single recorded utterance; all child utterances were coded and analysed. I was able to extend the range of the study further by extrapolating from Y.R. Chao's 1951 description of his 28 month old Mandarin speaking granddaughter Canta. Canta seemed to be rather less syntactically advanced than Lao Hu; she was very likely somewhere in mid-Stage I in Brown's terminology. I also referred to transcripts made of Lingling, a 36 month old Mandarin speaking Berkeley child recorded by Teresa Chen and discussed by Erbaugh, 1974. Lingling was consistently more advanced than Jong Rong.

Nonetheless, all four children showed strikingly similar basic styles of Mandarin usage, that is: excellent, near-full control of tones; somewhat stricter word order than is found in adult speech (Mandarin is undergoing a massive word order shift from SVO to SOV). Also, while the children coined very few new words and made very little use of the very productive Mandarin reduplicated forms, they produced more morphological markings of the forms they did control than did adults. It seemed that despite the relative lack of morphological elaboration available in Chinese, the children found morphological markers easier to control than periphrastic forms involving adverbs, and word order shifts and contrasts. In addition, all four children's preferences in aspectual relations marked seemed consistent enough to project a fuller generalized schedule for the emergence of aspectual relations over time.

I noted no Whorf effect of any kind; the children were well aware of semantic number and sex distinctions, and current versus non-current time. As noted before, the children's environments were quite urban and westernized;

the children's most culturally Chinese utterances contained food words for winter melon soup, mung bean compote, and lichee nuts. The children made the correct distinctions in the few kinship terms they controlled.

Let us look through the stages in acquisition of aspect as sketched in the chart. In Aspect Development Stage I at the late one-word stage, the only marked distinctions are change of state with overextended use of the verb suffix -.le; and the distinction between straight negation with bu, and negation with continued possibility with mei mentioned before. Let us explore early use of what we may generalize and call the -.le perfect marker in more detail. If we say something like che lai.le (car come perfect) we may translate this as "the car has come", although, depending on context, it could also mean "the car came" or "the car had come"; it might also be embedded as a temporal clause in a larger sentence to mean "when the car has come....." What is important to note is the car was not at some location once, but its position has changed, and now it has reached that place. The statement is unclear as to whether the car has stopped or kept on going; it is possible that it may not have finished its motion. In any case, Chinese two-year-olds frequently say things like che lai.le "the car has come" when they roll toy cars toward themselves on the floor. This is perfectly correct.

However, it seems that the children's desire to mark change of state grammatically on the surface is so strong that they will also use the -.le verb suffix to express change of state regardless of past, present or future time; regardless of whether the change has taken place yet or not. This leads to many aberrant utterances. It is the change they want to mark rather than any specific end result; and it is this change which shows up in comparable English and Italian examples tied to the tense system. The Chinese children not only used -.le to express their own intentions, saying, for example, *pao.le (run perfect) "(I) have run" to mean "I'm going to run," but they would also use -.le in another aberrant way from the adult point of view, that is, to mark imperatives e.g. ordering the father to jump rope by saying *tiao.le (jump perfect), that is, saying "have jumped! have jusped!" for "Jump! jump!."

About equally aberrant on a scale of deviance from adult usage is suffixing -.le to inappropriate adjectives, such as describing what happened to Pinnochio's nose by saying *da.le (big perfect) +- **"(it's) bigged." Even more unexpected is the suffixing of -.le to nouns, as when

ACQUISITION OF ASPECT IN MANDARIN

CHILD NAME	ROUGH MLU	ASPECT STAGE	CHANGE OF STATE	NEGATIVE	DURATIVE
ANTA	1.00	I	Change of State w/ -.le past *future *imperative (S)	bu "isn't/can't (impossible) (A) mei *hasn't yet" (still possible) (A)	. . .
LO HU					. . .
	2.00	II	End action (S) End location (S)	bu embeds in complex verb *mei VB+.le (unmarked) *negative with completed change of state marking	. . .
ONG ONG					. . .
	3.00	III	End result (S)		. . . Continued possession w/ mei "still" (A)
		IV	Unmarked series of events	Continued negative state mei VB *still hasn't VB" (A)	Continued action w/ mei (A)
	4.31	V	Event with immediate consequence w/ lio "just" (A)	. .	Progressives (A) (S) Continued desire (A)
INGLING	4.69			. .	

STILL NON-PRODUCTIVE: Event time beginning absolute past; habitual negatives counterfactu.ls; time duration habituals iteratives

A= adverbially, before the verb
S= as a verb suffix

Lao Hu finished building a block tower and announced
*fang.zi.le ± **(It's) housed", and then, when
house perfect
the tower broke in to, *liang.ge.le ±
two perfect
**(It's) twoed."

The next stage, somewhere around the two morpheme stage, allows additional verb suffixes to mark completion with -hao "good" or -wan "finish", as well as a limited range of verb locative postpositions to mark end location of an action. Modification of the location of an ongoing action or place of a stationary object does not occur at this stage. Durative relations remain essentially unmarked. Negatives start to be embedded in complex verbs, as in wo na.bu.chu.lai for
I take not out come
"I can't get (it) out."

Stage 3, somewhere over an MLU of 3.00, sees the beginning of marking end-results by verb suffix complements, such as nonghuai "spoil," "wreck". The
make bad
first true durative relations start to emerge here with the adverb hai "still", here used only for possessions, confounded with its other meaning of "also." The children will often say things like wo hai you
I still have
hen duo "I still /also have lots". This meaning, is, very many
however, ambiguous between continued possession, and an additional number of possessions. It may be that the children see this hai as a general intensifier along the lines of hen "very."

Stage 4 sees the emergence of unmarked seriated events as well as continued negative relations marked with hai, as in wo hai mei jianhao "I still haven't
I still haven't cut finish
finished cutting"; as well as marking continued action verbs with hai, without, however, the progressive verb suffix required. At this stage Jong Rong used hai "still" as a main verb with a progressive suffix, as when she didn't want to stop playing with her mother's jewelry and said *wo hai.zhe ± **I'm stilling."
I still progressive

In Jong Rong's most advanced usages at Stage 5 she was starting to be able to express an event, then to use the adverb jio, meaning something like "just" or "simply" before a second clause to express the consequences of the first clause, as for example when she wanted to jump off her fourth floor balcony to fly with the pigeons, turned to her father who was holding her back and begged xia qu jio hao.le
down go simply good perfect

"Go down and everything will be fine." Her most impressive example of this sort had her topicalize the subject in a relative clause as she talked about her imaginary dog which she feared would bite her. She said: "The one of mine that went to America, he could just bite me," wo dao meiguo,de, ta
I to America modi- he
fier
jio hui yao wo . At this stage progressives
simply can bite me
start to be productive both as suffixes and adverbs. Jong Rong can express continued desire with "still want" as hai yao; however, no other non-action verbs are so modified. Even so, many aspectual markings, especially beginning, habitual; serieated events, most adverbial expressions, and nearly all time relations remain unexpressed.

Much more investigation is needed before we can reach a fuller testing and understanding of the aspectual relations sketched here. Longitudinal studies are the most important type needed, as well as better gestural and contextual descriptions. But we also need comparisons with adult samples, and a far more thorough analysis than is now available for the structure and social and semantic relevance of the new word order shifts in Mandarin: the increasing tendency to suffixed verbs and near-agglutinative forms, the role of verb transitivity, and the co-occurrence restrictions of disjunctive combinatory pairs of adverb + VERB+complement+aspect forms which are gaining so much importance.

In the mean time, in our mortal state, what can we conclude? First of all, the aspectual distinctions are far more central than the temporal ones. Secondly, we propose a cognitive universal for early linguistic marking of changes of state (distinguishable from endings or results) to be commented on by the child in a variety of overextensions relatively little constrained by linguistic form.

Less fundamental, and therefore more subject to interference both from structural linguistic complexity, context, and protocols of cognitive growth in general are markings for types of duration, and event times. For Chinese children, all of these are more accessible as suffixed forms than as adverbial forms, and least accessible as discontinuous adverb plus verb+suffix agreement combinations.

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